लोक सेवा आयोग

कृषि विकास बैंक लिमिटेड, प्राविधिक, छैटौं, इन्जिनियर आई.टी. पदको खुला प्रतियोगितात्मक लिखित परीक्षा

२०८१।०४।०५

पत्र : द्वितीय
समय : ३ घण्टा

पूर्णाङ्क : १००

विषय : सेवा सम्बन्धी

प्रत्येक **Section** को उत्तर छुट्टाछुट्टै उत्तरपुस्तिकामा लेख्नुपर्नेछ । अन्यथा उत्तरपुस्तिका रद्द हुनेछ ।

Section "A" — 50 Marks

1. Define the temperature coefficient of resistance and explain the effect of temperature on resistance of a substance. 2+3=5
2. What is logic family in digital electronics? Provide a broad classification of the logic families. 2+3=5
3. Differentiate between data privacy and data security. 5
4. What is Natural Language Processing (NLP)? Discuss the different steps involved in NLP with suitable examples. 1+4=5
5. What is addressing modes in computer architecture? Discuss various types of addressing modes with example. 2+8=10
6. Define database transaction. Discuss the ACID properties of a transaction. Explain the need for concurrency control in multiuser database environment along with various concurrency control techniques. 2+4+4=10
7. Describe the characteristics of object-oriented programming (OOP). What are the advantages of OOP over procedural programming? Write a program in C to check whether a given string is palindrome or not using user defined function. 4+2+4=10

Section "B" — 50 Marks

8. What is computer operating system? What are the key features of Windows that contribute to its reputation as the most user-friendly operating system globally? Describe. 1+4=5
9. What are the benefits and problems of software reuse? What factors need to be taken care of while software reuse planning? Mention. 3+2=5
10. What is cyber security? What are four key strategies for enhancing cyber security in the banking sector? Describe. 1+4=5
11. Explain how Nepal Engineering Council is constituted. 5
12. What is understood by the term Deadlock in Operating System? What are the conditions for deadlock occurrence? How can you avoid it? Explain. 2+4+4=10
13. Distinguish between TCP and UDP. What are the problems of IPv4? How does IPv6 reduce these problems? Explain different strategies for the transition from IPv4 to IPv6. 2+2+2+4=10
14. What is Software Requirement Specification (SRS)? Differentiate between functional and non-functional requirements. How do you ensure information security of a system? Explain. 2+3+5=10

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